

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
6 January 2005 (06.01.2005)

PCT

(10) International Publication Number
WO 2005/002092 A3

(51) International Patent Classification⁷: **H04Q 11/00**

(21) International Application Number:
PCT/JP2004/009495

(22) International Filing Date: 29 June 2004 (29.06.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
2003-186808 30 June 2003 (30.06.2003) JP

(71) Applicant (for all designated States except US): MAT-SUSHITA ELECTRIC INDUSTRIAL CO., LTD. [JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501 (JP).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SHIOZAKI, Toru. FUSE, Masaru.

(74) Agent: OGASAWARA, Shiro; Daisan-Longev' Bldg., 3-11, Enokicho, Suita-shi, Osaka 564-0053 (JP).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM,

AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

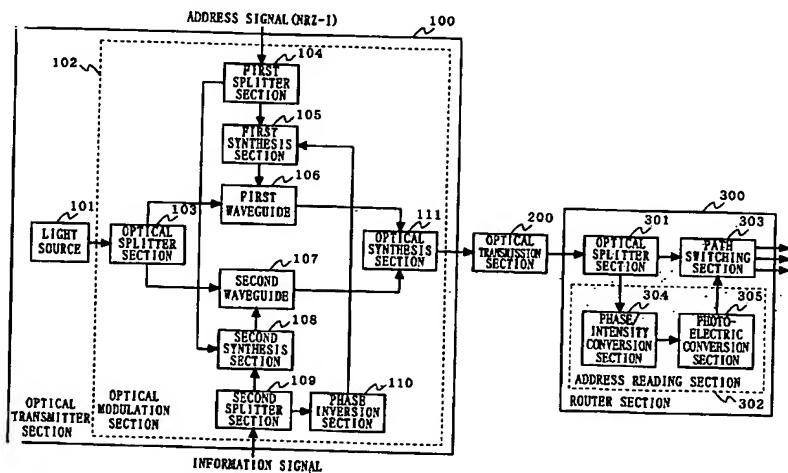
Published:

— with international search report

(88) Date of publication of the international search report: 24 March 2005

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: OPTICAL PACKET EXCHANGER



(57) Abstract: An optical packet exchanger is provided which, in a situation where a transmission path for an optical packet is to be switched by using an address signal, prevents the transmittable capacity for the information signal from being decreased, and which facilitates the extraction of the address signal even if the modulation speed for the information signal becomes high. An optical modulation section 102 outputs an optical packet obtained by subjecting output light from a light source 101 to an intensity modulation using an information signal and a phase modulation using an address signal corresponding to a transmission destination for the information signal. An optical splitter section 301 splits the optical packet received via the optical transmission section 200 into two optical packets. An address reading section 302 reads the address signal from the phase of one of the optical packets output from the optical splitter section 301. Based on the address signal output from the address reading section 302, a path switching section 303 determines an output port for the other optical packet.

WO 2005/002092 A3

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/009495

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H04Q11/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H04Q H04B H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, INSPEC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 550 046 A (GTE LABORATORIES INC) 7 July 1993 (1993-07-07) abstract column 3, line 37 – line 42 column 4, lines 28-34	1,10,33
A	EP 1 113 695 A (NORTEL NETWORKS LTD) 4 July 2001 (2001-07-04) abstract	1-48
A	US 6 388 786 B1 (ONO TAKASHI ET AL) 14 May 2002 (2002-05-14) abstract	1-48

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the International search

10 December 2004

Date of mailing of the International search report

21/12/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax (+31-70) 340-3016

Authorized officer

Dhondt, E

INTERNATIONAL SEARCH REPORT

International Application No

PCT/JP2004/009495

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 14, 5 March 2001 (2001-03-05) & JP 2000 324054 A (NEC CORP), 24 November 2000 (2000-11-24) abstract -& US 6 728 490 B1 (OHHIRA RISATO) 27 April 2004 (2004-04-27) abstract -----	1-48
P,A		1-48

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2004/009495

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
EP 0550046	A	07-07-1993	US CA EP JP	5253250 A 2085395 A1 0550046 A2 5268268 A	12-10-1993 01-07-1993 07-07-1993 15-10-1993	
EP 1113695	A	04-07-2001	US CA EP	6626589 B1 2323028 A1 1113695 A2	30-09-2003 29-06-2001 04-07-2001	
US 6388786	B1	14-05-2002		NONE		
JP 2000324054	A	24-11-2000	JP US	3487217 B2 6728490 B1	13-01-2004 27-04-2004	
US 6728490	B1	27-04-2004	JP JP	3487217 B2 2000324054 A	13-01-2004 24-11-2000	